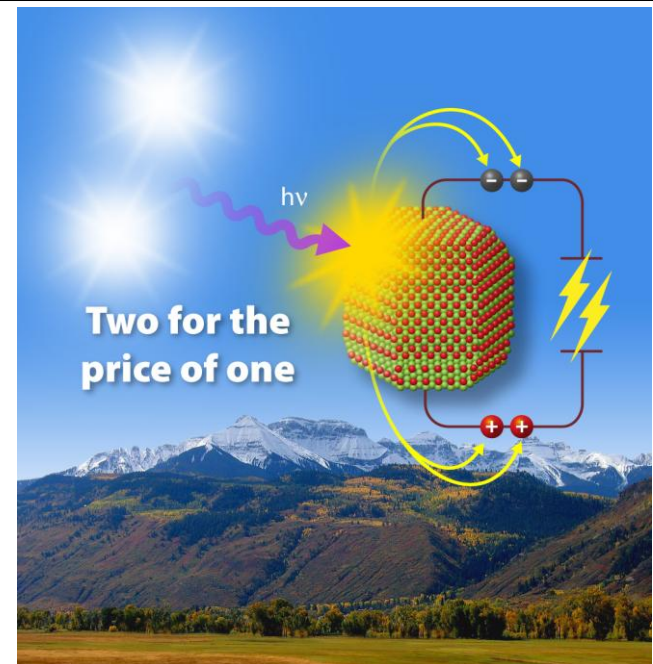




The goal of this center is to explore and exploit the unique physics of nanostructured materials to boost the efficiency of solar energy conversion through novel light-matter interactions, controlled excited-state dynamics, and engineered carrier-carrier coupling.



RESEARCH PLAN AND DIRECTIONS

The major challenge is to reach or exceed thermodynamic efficiency limits via approaches such as band-structure engineering, carrier multiplication, plasmonic and photonic effects, and defect-tolerant excitonic transport. The potential outcome of this work is low-cost, high-efficiency photovoltaics based on nanostructures fabricated via scalable chemical methods.